

WHAT IS CLAIMED IS:

1 1. A clamping mechanism for clamping at least two structural
2 components to each other comprising a clamping bail forming
3 a clamping opening, a first clamping section (9) carried by
4 said clamping bail to face across said clamping opening, a
5 second clamping section (10) carried by said clamping bail
6 to face across said clamping opening in alignment with said
7 first clamping section (9), said first clamping section
8 comprising a guide element (11) for guiding a drill bit, a
9 removable centering pin (12) axially movable in said guide
10 element (11) for aiding in positioning a first structural
11 component of said at least two structural components in a
12 correct drilling position, and wherein said second clamping
13 section (10) comprises a pressure member (15) and a
14 clamping drive for pressing said pressure member (15)
15 against a second structural component of said at least two
16 structural components and against said first structural
17 component to establish a clamped position for said at least
18 two structural components.

1 2. The clamping mechanism of claim 1, wherein said guide
2 element (11) is constructed as a drill bushing for first
3 guiding said centering pin (12) and for then guiding said
4 drill bit (DB) after removal of said centering pin (12)
5 from said drill bushing (11).

1 **3.** The clamping mechanism of claim 1, further comprising an
2 adapter (20) secured to said first clamping section (9) in
3 axial alignment with said guide element for holding a drill
4 in an aligned drilling position.

1 **4.** The clamping mechanism of claim 3, wherein said adapter
2 (20) comprises a locking device for locking said drill to
3 said first clamping section (9).

1 **5.** The clamping mechanism of claim 3, wherein said adapter
2 (20) is a chuck for locking said drill to said first
3 clamping section (9).

1 **6.** The clamping mechanism of claim 1, wherein said clamping
2 drive comprises a cam (13A), an eccentric mounting (14)
3 rotatably securing said cam (13A) to said second clamping
4 section (10) and a drive lever (13) secured to said cam for
5 rotating said cam against said pressure member (15).

1 **7.** The clamping mechanism of claim 1, wherein said clamping
2 drive comprises a clamping screw (21) rotatably mounted in
3 said second clamping section, said clamping screw having a
4 free end forming said pressure member (15).

1 **8.** The clamping mechanism of claim 1, wherein said clamping
2 drive comprises a clamping push rod (22) slidably and
3 rotatably mounted in said second clamping section and an
4 operating lever (23) secured to one end of said clamping

5 push rod, said clamping push rod having a free end forming
6 said pressure member (15).

1 9. The clamping mechanism of claim 1, wherein said clamping
2 drive comprises a piston cylinder device mounted to said
3 second clamping section, said piston cylinder device
4 comprising a piston having a free end forming said pressure
5 member (15).

1 10. The clamping mechanism of claim 1, further comprising a
2 suction device (17) communicating with said guide element
3 (11) for sucking drill chips out of said guide element.

1 11. The clamping mechanism of claim 1, wherein said guide
2 element (11) comprises a hollow guide channel in said first
3 clamping section (9), said hollow guide channel being
4 axially aligned with said pressure member (15) in said
5 second clamping section.

1 12. The clamping mechanism of claim 1, wherein said pressure
2 member (15) comprises a free end for contacting said other
3 structural component and a dead end bore or cavity (15A) in
4 said pressure member in axial alignment with said guide
5 element (11), said dead end bore opening into said free end
6 of the pressure member wherein said free end of the
7 pressure member, in a clamping position surrounds a
8 structural component area through which a hole is being

9 drilled and a drill bit tip can enter into said bore or
10 cavity (15A) when a hole drilling is completed.